

CLAIMS

1. An electro-mechanical screw actuator assembly, of the type comprising:

an electric motor (30) with a stator (31) and a rotor (34),

a screw mechanism (60), including a rotatable nut (61) and a central screw (62) translatable along a given axis (x),

a planetary gear reduction system (50), disposed between the rotor (34) and the screw mechanism (60), for driving this mechanism,

characterized in that the rotor (34) carries a plurality of satellite gears (52) of the reduction system (50).

2. An actuator assembly according to claim 1, characterized in that the rotor (34) has an outer peripheral toothing (37).

3. An actuator assembly according to claim 2, characterized in that at least the toothing (37) of the rotor is made of metallic material.

4. An actuator assembly according to claim 2 or 3, characterized in that the toothing (37) is formed as a single piece with the rotor (34).

5. An actuator assembly according to any one of claims 2 to 4, characterized in that the toothing (37) is carried or formed by a peripheral edge of a radial flange (36) of the rotor (34), the flange being provided with a plurality of axially protruding pins (51) for rotatably supporting the satellite gears (52).

6. An actuator assembly according to claim 3, characterized

in that it comprises position sensor means (38) operatively associated with the metallic toothing (37) in order to provide signals indicative of the angular position of the rotor (34).

7. An actuator assembly according to claim 6, characterized in that the sensor means (38) are carried by an annular supporting bracket (39) mounted on one side of the stator (31).

8. An actuator assembly according to claim 7, characterized in that the motor (30) is a brushless electric motor and that the bracket (39) carries further sensor means for controlling the switching of the brushless motor.

9. An actuator assembly according to claim 2, characterized in that it further comprises at least a locking means (16) controlled for being selectively movable between a position engaged with the toothing (37) for locking rotation of the rotor (34) and a position disengaged from the toothing (37) for allowing rotation of the rotor.

10. An actuator assembly according to claim 1, characterized in that each of the satellite gears (52) has two toothed portions (53, 54):

- a first toothed portion (53) meshing with a fixed gear (55) and
- a second toothed portion (54) meshing with a gear (56) fast for rotation with the nut (61).

11. An actuator assembly according to any one of the preceding claims, coupled with a brake calliper (A) for operating a braking force on a motor vehicle.